

REMARKS

Claims 1-9, 11 and 13 are pending. Claims 10 and 12 have been canceled.

Claims 1-4, 7-9 and 11 are currently amended. Support for the amendments can be found in the Specification on page 6, lines 23-31.

New claims 14 and 15 have been added. Support can be found in the Specification on page 12, line 36 to page 14, line 21.

No new matter has been added.

Claim Rejections – 35 USC § 112

The Examiner has rejected claim 1 for the recitation of “making taste of seasoning better.” Applicants have replaced this phrase with the phrase “enhancing the taste of seasoning,” thereby overcoming the rejection. Support for the amendment can be found in the Specification on page 5, line 36 to page 6, line 4. Applicants thus request removal of the rejection.

Claim Rejections – 35 USC § 102

The Examiner has rejected claims 2-4, 7-9 and 13 as anticipated by Higashiyama et al. in view of Gilbertson. The Examiner contends that Higashiyama et al. disclose the use of arachidonic acid in soup, meat, fried rice, mayonnaise and processed soy curd and contends that the taste of these foods is enhanced. The Examiner also contends that Higashiyama et al. teach production of arachidonic acid from microorganisms which is used in various food compositions. Applicants respectfully traverse.

Applicants note that the description of Gilbertson indicated by the Examiner (i.e. column 2, lines 55-60 of the reference) shows just an estimation of enhancement of palatability of food by the addition of free fatty acids. All of the data shown by Gilbertson concerns electrophysiological recording and analysis using taste receptor cells from isolated rat fungiform buds. There are, however, no data in Gilbertson that directly confirm that people find foods supplemented with these free fatty acids more palatable.

As taught by Gilbertson in column 1, lines 9-13, the palatability of food is based on many features, including its texture, flavor, odor and taste. Only one of these factors, taste, is sensed

through neuro-epithelial chemoreceptor cells in the mouth. Therefore, it is not reasonable to consider that the test data from Gilbertson using the taste receptor cells alone can demonstrate that the overall palatability of food has been enhanced by the addition of the free cis-polyunsaturated fatty acid.

The purpose of the Gilbertson invention was to enhance the palatability of low calorie fat substitutes and sugar substitutes which were developed to help with the growing problem of obesity, as seen from column 1, lines 19-20 and 26-36, as well as in column 2, lines 57 to 59.

Gilbertson disclosed that the advantage of stimulation of a taste receptor cell by adding the free cis-polyunsaturated fatty acid to the food is that the preferred effect is achieved without simultaneously adding a substantial amount of any saturated fatty acid, as described in column 2, line 60 to 62. Gilbertson further disclosed in column 9, lines 25-33 that it is preferred that the addition of the cis- polyunsaturated fatty acid to the food is not accompanied by simultaneously adding to the food a substantial concentration of a mono-unsaturated fatty acid or a trans-polyunsaturated fatty acid.

By contrast, the long-chain highly unsaturated fatty acids according to the present invention will improve the body taste of "natural" vegetable fat and oil *per se*. The "natural" vegetable fat and oil, such as corn oil and rape seed oil used in the Examples of the instant invention already contain a substantial amount of saturated fatty acids, such as about 4-10% of palmitic acid (C16:1) and about 2% of stearic acid (C18:1), as well as a substantial amount of mono-unsaturated fatty acids such as about 25 to 60% of oleic acid (C18:1).

Significantly, the body taste and enhancing taste improving effects of the instant invention were actually demonstrated and confirmed by way of a sensory test with 7-15 human panelists in Examples 1 to 11.

In view of this, Applicants submit that the Gilbertson reference does not provide the evidence that arachidonic acid would "inherently" enhance the flavor, as alleged by the Examiner. Consequently, Applicants submit that Gilbertson cannot be used, even in a peripheral manner, to support a novelty rejection of the instant claims.

Applicants next note that the claims have been amended to require an n-3 long-chain highly unsaturated fatty acid having 20 or more carbon atoms and 3 or more double bonds, or an

n-6 long-chain highly unsaturated fatty acid having 18 or more carbon atoms and 3 or more of double bonds.

In view of all of the above, Applicants submit that the claims are novel and request removal of the rejections.

Claim Rejections – 35 USC § 103

The Examiner has rejected claims 1, 2, 4-7 and 9-12 as obvious over Chen in view of Gilbertson. To summarize, the Examiner contends that Chen discloses the addition of long chain unsaturated fatty acids in the flavoring composition as seasoning composition where the long chain unsaturated fatty acids are obtained from safflower, linseed oil, etc. The Examiner admits that Chen does not teach specific long chain highly unsaturated fatty acids such as arachidonic acid as taste enhancing food additives.

To fill this void the Examiner turns to Gilbertson. The Examiner contends that Gilbertson teaches a method for making various foods with cis-polyunsaturated fatty acids to stimulate taste receptors in the mouth, which polyunsaturated fatty acids have at least two double bonds and include arachidonic acid, eicosapentaenoic acid and docosahexaenoic acid.

Applicants respectfully traverse.

Applicants first note that Chen discloses a process for preparing a flavoring composition comprising subjecting at least one fatty acid to heat treatment. Oleic acid (C18:1) and linolenic acid (C18:2) and commercial food grade acid containing them are used in the examples. That is, the fatty acids used by Chen do not fit the instantly claimed requirement of being an n-3 long-chain highly unsaturated fatty acid having 20 or more carbon atoms and 3 or more double bonds, or an n-6 long-chain highly unsaturated fatty acid having 18 or more carbon atoms and 3 or more of double bonds. Thus, Chen does not disclose or suggest the use of the above-specified long-chain highly unsaturated fatty acids for the preparation of the flavoring composition.

Applicants next note that one skilled in the art would not have had a reasonable expectation of success in combining Chen and Gilbertson to achieve the claimed invention. As discussed in detail above, the description of Gilbertson indicated by the Examiner (i.e. column 2, lines 55-60 of the reference) shows just an estimation of enhancement of palatability of food by

the addition of free fatty acids. All the data shown by Gilbertson concerns electrophysiological recording and analysis using taste receptor cells from isolated rat fungiform buds.

Furthermore, Gilbertson teaches that the taste of a food, specifically low calorie substitutes, can be improved by the addition of free cis-polyunsaturated fatty acids without the contemporaneous addition of other fatty acids; i.e. by adding small amounts of cis-polyunsaturated fatty acids. This is in contrast to the instant invention which uses significant quantities of long-chain fatty acids.

Applicants respectfully submit that it is only with hindsight that the Examiner has identified Gilbertson as a reference which might possibly support an obviousness rejection in connection with Chen. But one skilled in the art would not have looked to the area of science devoted to improving flavor of low calorie foods having little fat when wishing to enhance the flavor of a naturally occurring fat and oil which has a high caloric content. This, combined with other deficits of the Gilbertson reference discussed at length in the novelty section, shows that the Examiner has not made a *prima facie* case of obviousness.

Therefore, in view of the above, Applicants respectfully request removal of the rejection.

Conclusion

In view of the above remarks, all of the claims are submitted as defining non-obvious, patentable subject matter. Reconsideration of the rejections and allowance of the claims are respectfully requested. Applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Susan W. Gorman Reg. No. 47,604 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

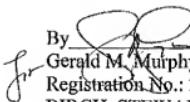
Application No. 10/578,223
Amendment dated September 3, 2010
Reply to Office Action of June 3, 2010

Docket No.: 4600-0121PUS1

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Dated: September 3, 2010

Respectfully submitted,

By 
Gerald M. Murphy, Jr.
Registration No.: 28,977
BIRCH, STEWART, KOLASCH & BIRCH, LLP
12770 High Bluff Drive
Suite 260
San Diego, California 92130
(858) 792-8855
Attorney for Applicant

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